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WHITSON

BIG SPRINGS

water trail

Management Plan



National Recreation Trail

TARGHEE NATIONAL FOREST

USDA

REGION 4

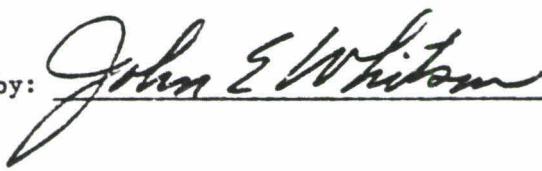
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MANAGEMENT PLAN

BIG SPRINGS WATER TRAIL

ISLAND PARK RANGER DISTRICT
TARGHEE NATIONAL FOREST

Prepared by:



Date:

2/13/81

Recommended by:

Date:

Recommended by:

Date:

Approved by:

Date:

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INTRODUCTION

The Big Springs Composite Area is located on the Targhee National Forest, in Island Park, Idaho. The area has historically been the playground for Eastern Idaho, Northern Utah, and National traveling publics.

The Big Springs area is a recreational complex consisting of a 20 unit Forest Service campground, one resort and 24 recreation residences. The recreation residences are currently being phased out, with 10 of the residents' permits terminating December 31, 1979 and the remaining residences terminating at a later date. A decision was made in 1980 to terminate the resort in 1992. The campground and bridge parking redesign will be completed in 1981 and rescheduled for reconstruction in FY '85.

The public's main attraction to the area is the Spring, River and the fish which inhabit the spring. Big Springs is special in its magnitude and constancy of flow and temperatures, 186 cubic feet per second (83,483 gallons per minute), and a constant 52°F. or 11°C. It is the only spring of this size in the United States to emerge from rhyolitic lava flows.

I. Purpose of Plan

This plan is to provide for the future management of the Big Springs Water Trail as a coordinated but special project complimenting the Big Springs Composite Area. It will expand and update the basic direction provided in the Big Springs Composite Plan within the constraints established by the Environmental Assessment.

The plan will further refine past decisions and consider the estimated capacity, economics, and development scheduled for an orderly sequence of events. The development schedule will be implementable when a priority is established for construction and reconstruction funds.

It will include basic management, staffing, signing, and special projects to be accomplished during the interim period.

II. Situation

Big Springs is the name given to a large spring which is a major source of water for the North Fork of the Snake River. Flowing from under a hill at a rate in excess of 83,000 gallons per minute, it gives rise to a stream about 100 feet wide with depths up to 4 feet. It is recognized as a unique geological feature, a "natural wonder" of the State of Idaho.

The decision was made that the Forest Service would develop complimentary dispersed recreation facilities in conjunction with management of the total area with the approval of the Composite Plan, 6/28/79.

Development of the Big Springs dispersed recreation opportunities will be designed to provide minimum site modification to maintain a near natural character. To meet these objectives the following low impact facilities will be provided.

- A) Big Springs Interpretive Site.
- B) Upper Parking Area.
- C) FLOAT BOAT LAUNCH AREA. (Big Springs Water Trail)
- D) FLOAT BOAT LANDING AREA. "
- E) River Interpretive Trail.
- F) Family Group Reservation Area.
- G) Johnny Sack Historical Site.
- H) Big Springs C.G.

The Big Springs Water Trail was designated as a National Recreation Trail on January 8, 1981. See appendix item A for representative photos of the characteristics of the trail and the activities it will serve.

It is a very slow river which provides a safe and tranquil experience in all types of float craft. The speed of the river and often encountered up stream winds make the canoe the most desired craft. When using rafts, if up stream winds are blowing, rowing will be necessary.

A high population of fish are visable to the recreationist. They can stimulate the desire for fishing and often fishing is the principle reason . . . for the user visit. The activitiy of fishing is regulated by the Idaho Department of Fish and Game and is legal from the Henry's Lake outlet down stream.

III. User Opportunities

- River Floating
- Viewing Scenery
- Fishing
- Hunting (fall)

IV. User Statistics

To date there has been no actual counts of numbers of visitors. It is assumed from several personal observations and other Forest Service people associated with management of this area that the experience is enjoyed by numerous recreationists from Memorial to Labor day, with the heaviest use being traditional weekends and holidays.

The development of more reliable use data will be accomplished during the summer of 1981, through a traffic counter, sampling and voluntary registration at the launch area. This will be handled as an action recommendation for the interim management. Another source of use data will be from known organized groups, Idaho State University, Ricks College, Boy Scouts of America and other groups identified during the 1981 season.

V. Carrying Capacity

Recreation carrying capacity is not an absolute value (Wager 1963). The determination of carrying capacity is ultimately a judgmental decision (Hender, Stankey, Lucas 1978). Carrying capacity is a probabilistic concept, not an absolute measure (Hender, Stankey, Lucas 1978).

Based on these statements, this plan will first establish some basic assumptions from which two probabilistic carrying capacity concepts will be derived.

1. Four to five mile distance based on routes and landing. Average four to five miles or 7,920 yards.
2. 2.5 to 3 hours travel on rafts.
3. 1.5 to 2 hours travel in canoe.
4. 300 yards distance between groups to provide minimum contact frequency.
5. Canoes will pass rafts.
6. Rafts and/or canoes will have varied speeds.
7. 9 A.M. to 3 P.M. considered prime time for launching.
8. 8 A.M. to 9 A.M., 3 P.M. to 5 P.M. some launching, but can expect less than during prime time.
9. Floaters will encounter some walking fishermen.
10. Floaters will encounter some power boat users primarily from the North Fork Club and the North Fork summer home area.

Assuming 300 yards distance between groups is needed for the desired and expected experience, and the average size group is 6, and the distance of the trip is 7,920 yards:

$$\frac{7,920}{300} \times 6 = 158.4 \text{ PAOT}$$

Accepting 200 yards distance and 4 per group:

$$\frac{7,920}{200} \times 4 = 158.4 \text{ PAOT}$$

It is doubtful that the actual use, even on holidays, would approach this capacity for floaters. A more realistic administratively set capacity would be 80 to 120 PAOT. The planned parking at the launch area and the landing are not designed for these capacities.

The area use can be assumed to be acceptable now and is not expected to increase drastically with management.

VI. Interim Management

1. Signing - using the approved sign design for the Composite area, appendix H, install boat launching directional sign at access from the Big Springs Road, Appendix C.

Install National Recreation Trail identification sign at launch site in conjunction with a standard Targhee backcountry bulletin board, appendix F.

A standard Trailhead registration box will be used for registration and to supply an approved management questionnaire, appendix G, to collect data for future management if and when use increases to the level that regulations are necessary. Install a receptacle at the landing for deposit of completed questionnaire after floating.

Post Coast Guard regulations.

2. Sanitation

Place two monomatic toilets at the launch site. Monitor use to assist in final need determination. Use proper signing to inform visitors that no other sanitation facilities are provided on the trail.

3. Cleanup

The Ranger District will continue its pack-in - pack-out policy for the Trail.

A volunteer program will be pursued with organized user groups to periodically assume the responsibility or assist in trail cleanup. Contact will be made with Ricks College and local Boy Scout Councils. The Forest Service will provide litter pickers and sacks.

4. Staffing, and Use Data Collection

Historically there has been no specific recreation management applied to the area with the exception of occasional policing of the launch and landing areas.

Assign one employee to work a minimum of 1 day per week specifically on management of the Water Trail.

- Police Launch - Landing areas. This is in addition to the volunteers to assure acceptable standards.
- Keep signs posted, neat and current, collect registration sheets, keep registration sheet fresh and questionnaires available. Pickup completed questionnaires at landing.
- Install electric eye counter at the Railroad bridge and service and record weekly.
- Float river - refined policing in conjunction with volunteer activities to assure adequate standards.
- At the launch, landing and during floating, the Forest Service representative will perform host activities, providing information and any needed assistance to the Forest visitor.

VII. Cost for Implementing Interim Direction

Facility	Cost	Labor	Other	Remarks
Directional Sign	750.00	250.00		
2-NRT ID Signs	300.00	100.00		
Bulletin Board	400.00	100.00		
Elec. Eye Counter	525.00	100.00	50.00	Install new battery mid-season.
Registration Box	100.00	50.00		
Questionnaire Deposit Box	100.00	50.00		
2-Monomatic Toilets	on hand	100.00	200.00	Estimate 4 pumping per year.
Litter Pickers & Sacks	120.00			
Canoe & Equip.	on hand			
1-GS-3		600.00	200.00	Based on 1 day/wk 14 wks @ 420.00/pp
	2295.00	1350.00	450.00	

VIII. Long Range Development

As stated in Section II, situation, the decision was made to develop the water trail complimentary facilities with the approval of the composite plan. The plan states:

Float Boat Launch Area - Provide parking, sanitation, and pier-ramp for river users. To be located below the bridge and above the railroad trestle.

- 1) Minimum impact pier, suitable for launching raft, canoe, and light non-powered boats. This will not be the conventional boat ramp that permits

launching of large craft. It will be constructed to provide easy visitor management and capable of handling 2-4 craft at one time.

- 2) Parking area to accomodate 11-15 vehicles. Hard surfaced for site protection at parking and access to the launch pier. The parking area size is designed to maintain an acceptable number of people at one time on the river.
- 3) Access road to be hard surfaced. Can consider all weather road with adequate dust abatement.
- 4) Restroom to be provided in vicinity of parking area. Will be a sealed vault with a minimum flush toilet.

Float Boat Landing Area - Same description as per facilities in (3). Located out of the planning area in the vicinity of North Fork summer home area and Mack's Inn.

- 1) Located in vicinity of North Fork recreation residence area and Mack's Inn. Facilities comparable to launch area.

The water trail final design will be done by the Sawtooth Design Center. The design is tentatively scheduled for FY '83. The above list will be used as the preliminary design criteria.

The following cost estimates are provided by, Engineering and the Zone Design Center based on recent projects.

Launch Area

<u>Facility</u>	<u>Cost</u>
Dock Pier	5000.00
Parking - 8000 square feet - all weather base adequate for future hard surfacing.	2000.00
Parking - Hard surface	15000.00
Access Road - 24' x 3640' - All weather base adequate for future hard surface 2,500 yds gravel.	25000.00
Access Road - Paved	75000.00
Toilet - vault	20000.00
Signing - minimum directional (identification, bulletin board, etc. installed for interim management and adequate).	500.00
Landscaping	2500.00
Total	145000.00
Total less hard sufacing	55000.00

Landing Area

<u>Facility</u>	<u>Cost</u>
Dock Pier	5000.00
Parking - 800 square feet - all weather construction	2000.00
Access Road - adequate - any improvement would be cooperative with the private North Fork Club.	.
Toilet - vault	20000.00
Signing - directional and identification. Use approved composite area design	1500.00
Landscaping	1500.00
Total	30000.00

The actual construction of the facilities based on the final design could logically be accomplished in a 2 to 4 year schedule, provided that the launch area receives emphasis.

Visitor inconvenience will be a major consideration in developing the contract construction schedule. The existing and proposed launch area is the only feasible launch opportunity available to the public.

The actual use studies recommended for the summer of 1981 and demand projections, to be based on the in progress state SCORP update, may indicate a need for a change in our design criteria. This information will be compiled prior to the design date.

Long Term Management Direction

The interim management as described in Section VI should be implemented in FY '81 and continued or intensified as needed through final development of the complimentary facilities.

Emphasis priority with Sawtooth Design Center to assure completed planning as scheduled in FY '83.

Request Regional priority for construction schedule and dollars that will complete the launch and landing area development by FY '83. Include in FY '84 and FY '85 Forest planning development and budgeting process.

Program for one seasonal employee to manage the Island Park river use to include the Big Springs Water Trail and Box Canyon trailhead and floating.

Conduct studies as determined appropriate for possible restriction of power boats during the general floating season established as June 15 thru Labor Day.

Other than the possible power boat restriction, implement general restrictions, visitor numbers, camping and etc. only after a demonstrated need.

Continue any established interim management actions deemed appropriate for the situation.

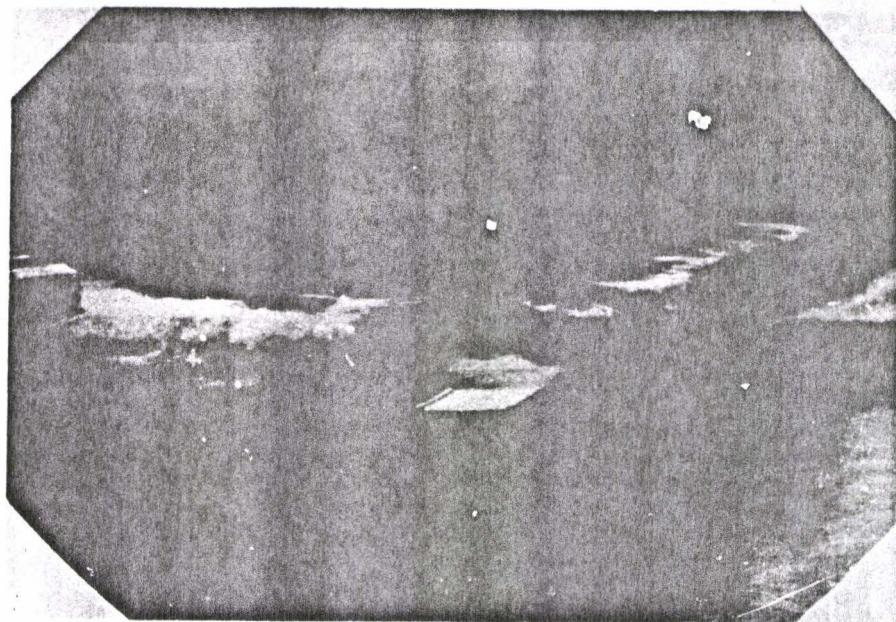
Revise these directions as necessary to protect or enhance the integrity of the Water Trail.

Appendix

- A. Representative photographs of the Big Springs Water Trail
- B. Vicinity Map
- C. Composite Area Map
- D. Conceptual launch area map.
- E. Conceptual landing area map.
- F. Targhee backcountry trailhead bulletin board.
- G. Draft questionnaire.
- H. Approved composite area signing.
- I. Cost Benefit Analysis

APPENDIX A

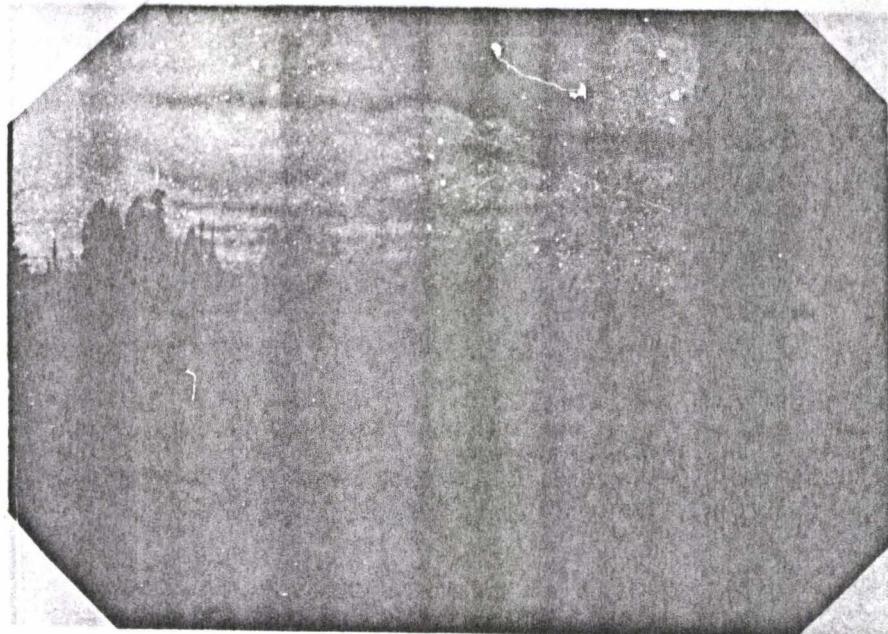
REPRESENTATIVE PHOTOGRAPHS OF THE BIG SPRINGS WATER TRAIL



BIG SPRING'S BOAT LAUNCH
(EXISTING)



GENERAL VIEW

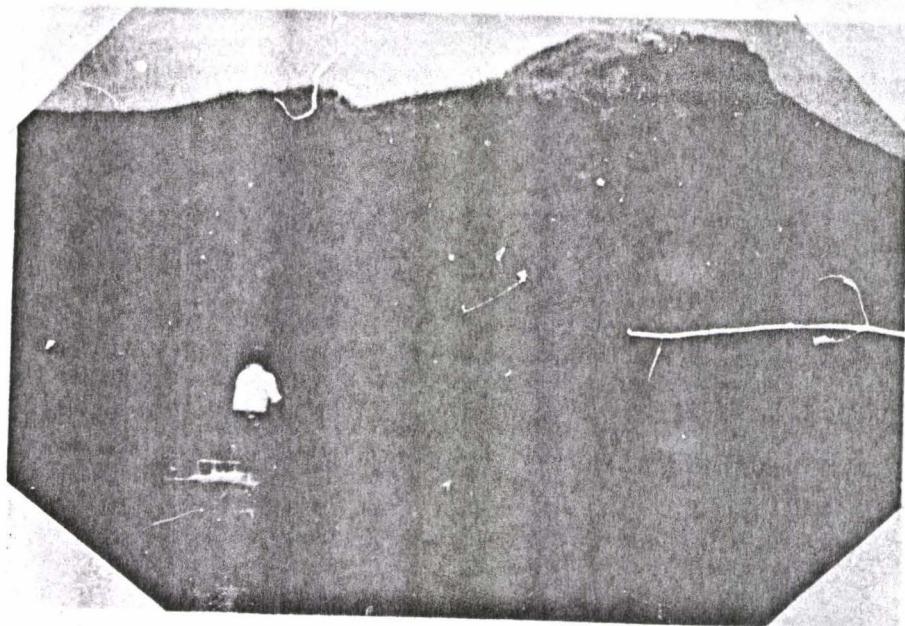


GENERAL VIEW - SAWTELL PEAK



GENERAL VIEW - BALD EAGLE

Appendix # A



POWER BOAT FISHING - SAWTELL PEAK



WALKIN FISHING

APPENDIX B

VICINITY MAPS

MONTANA

SALMON

DILLON

LIMA

TARGHEE
NATIONAL
FOREST

ISLAND
PARISH

YELLOWSTONE
PARISH

YELLOWSTONE
BIG SPRINGS

IDAHO

ARCO

22-88

DUBOIS

66

ASHTON

ST. ANTHONY

33

REXBURG

DRIGGS

IDAHO FALLS

26

BLACKFOOT

POCATELLO

MALAD

1-15

30N

SODA SPRINGS

30N

JACKSON

AFTON

88

MONTPELIER

30N

UTAH

1-80N

LOGAN

89

30N

KEMMERER

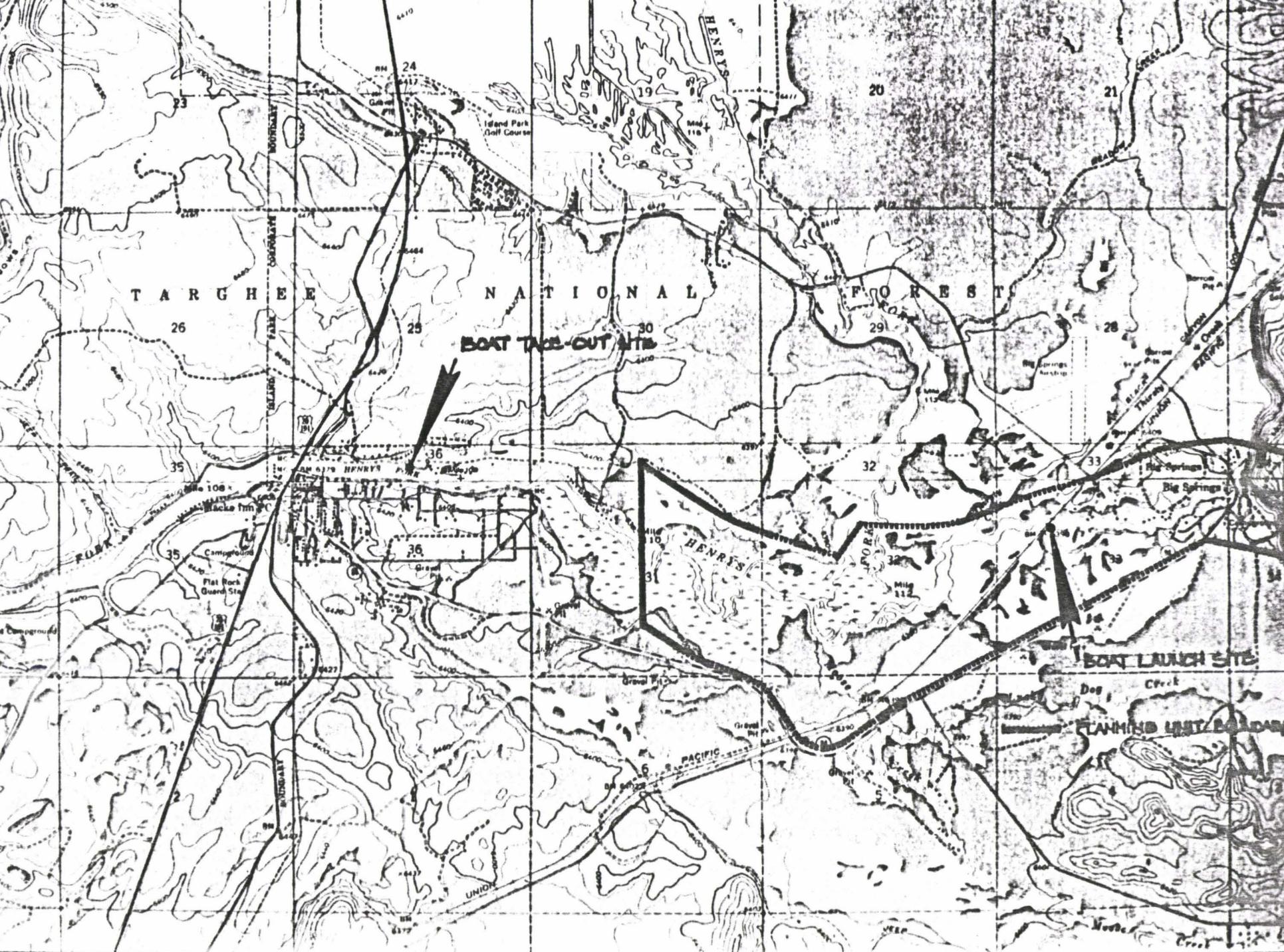
BOZEMAN

30-15

WYOMING

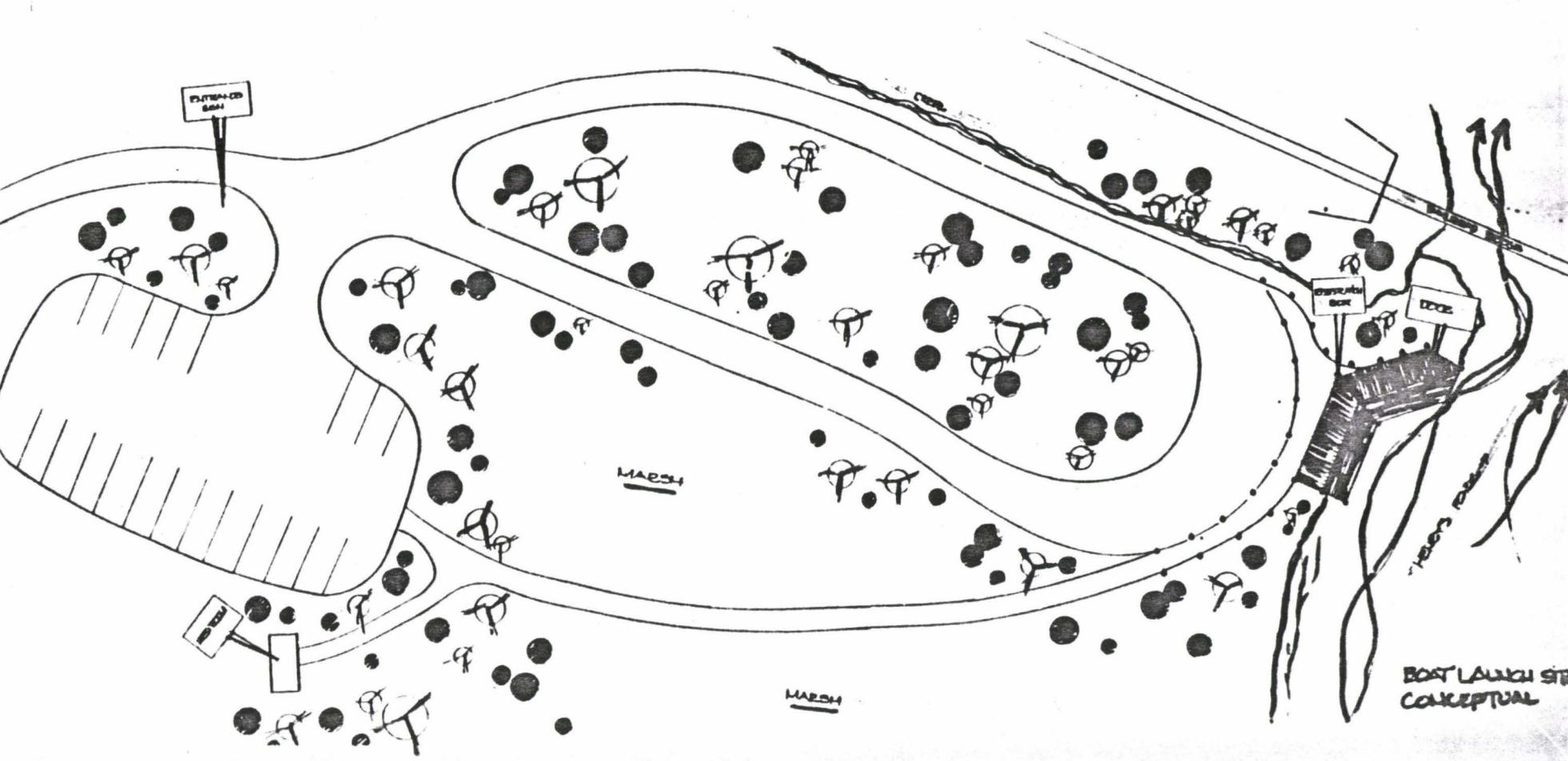
APPENDIX C

COMPOSITE AREA MAP



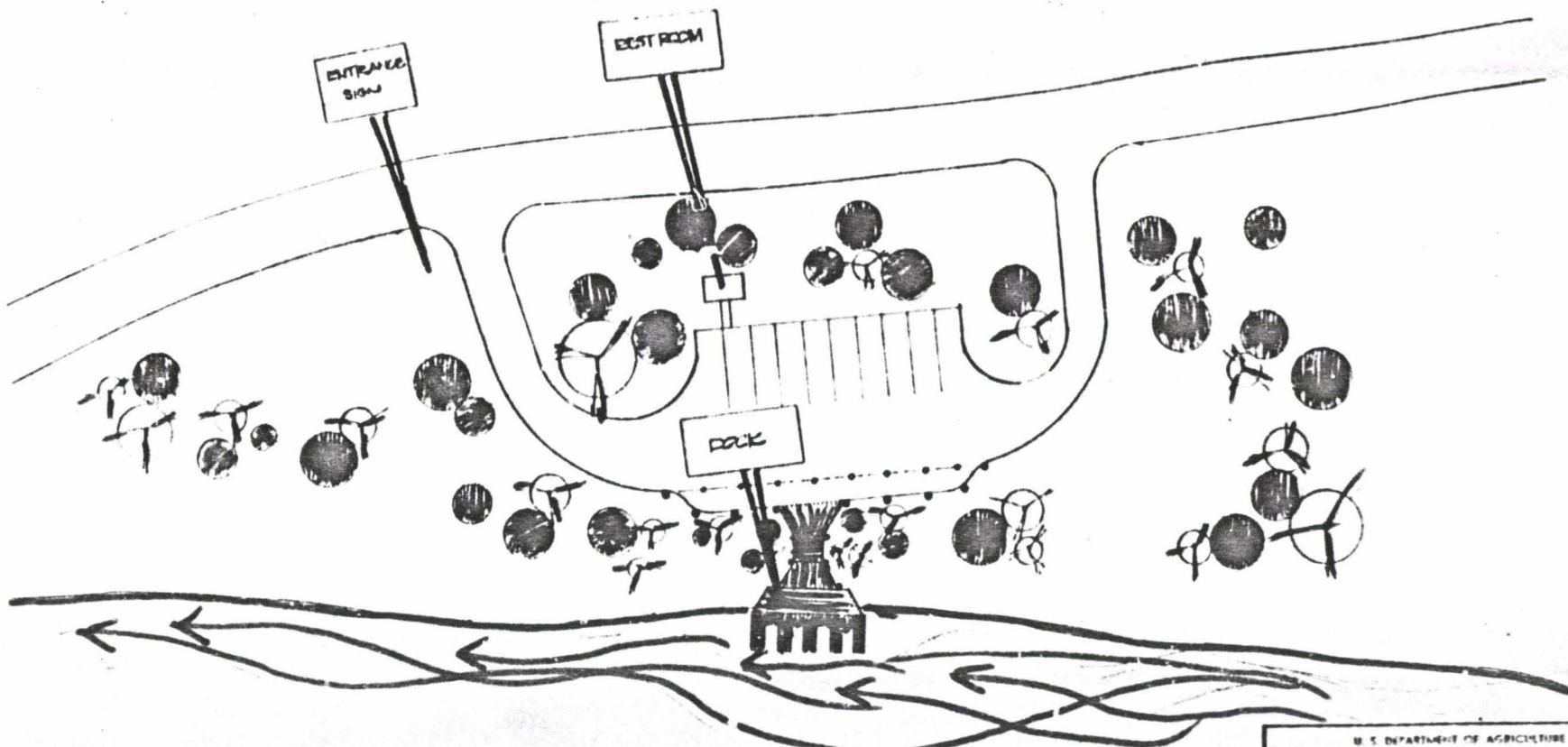
APPENDIX D

CONCEPTUAL LAUNCH AREA MAP



APPENDIX E

CONCEPTUAL LANDING AREA MAP



HELEYS FORK

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE TARGHEE NATIONAL FOREST			
SECTION 4			
Boat Take-Out Conceptual			
Drawn by Date Approved by Date	Checked by Date	Supervised by Date	Drawn by Date
Drawing No. _____			

APPENDIX F

TARGHEE BACKCOUNTRY TRAILHEAD BULLETIN BOARD

APPENDIX G

DRAFT QUESTIONNAIRE

Appendix "G"

Form to be submitted for approval.

OMB

QUESTIONNAIRE

This survey is voluntary. You are not required to respond but your cooperation will assist in future management of the Big Springs Water Trail for your enjoyment.

1) How many times have you floated the river?

1 2 3 4 5-10 numerous

2) How many people were in your group?

self only 2 3 4 5-10 10 - 20
(give number)

3) How many other groups did you encounter?

0 1 2 3 4 5-10 10 - 20

4) To what extent did you find the following to be problems?

	Not a Problem	Slight Problem	Moderate Problem	Serious Problem	Extreme Problem
Other groups encountered a) Launch area b) Floating c) Landing area					
Lack of facilities a) Launch area b) floating c) Landing area					
Other types of crafts a) canoes b) rafts c) power boats					

- 5) Type of craft used? canoe raft power boat other
- 6) Ownership of craft? personal friend rented other
- 7) Was your expectations of the trip met? yes no
- 8) How far did you travel to make the trip? 0-40 40-100 over 100
- 9) Will you plan to make the trip again? yes no
- 10) Specific comments you wish to make: _____

_____.

Your cooperation is appreciated.

BOB HAMMOND
Island Park District Ranger

Please deposit in recepticle at the landing.

APPENDIX H

APPROVED COMPOSITE AREA SIGNING



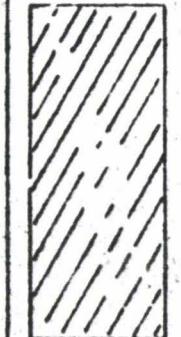
RECREATION
AREA



TARGHEE
NATIONAL
FOREST



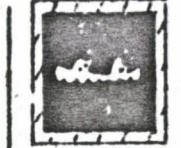
BIG
SPRINGS



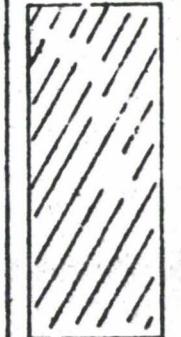
TRAIL



BOAT
LAUNCH



HISTORIC
CABIN



ENTRANCE SIGN

FRONTVIEW

TYPICAL CEDAR & REDWOOD SIGNS

SIDE VIEW

SCALE: 1/4" = 1'-0"

DESIGNED BY: M. ALEXANDER

APPENDIX I

COST BENEFIT ANALYSIS

NATIONAL FOREST - TARGHEE

UNIT - ISLAND PARK R. D.

ATTENTION - JOHN WHITSON

INVESTMENT ANALYSIS PROGRAM USFS - FAST VERSION

PROBLEM - ALTERNATIVE 1

BIG SPRINGS WATER TRAIL

O. M. B. RATE .0400 OPT. INT. RATE .0400 RANKING RATE .0400

ITEM	VALUE	YEARS	TOTAL UNITS	FIRST YEAR		\$ DISCOUNTED AT 4.00%	%				
				TYPE	BEGIN	END	PER YEAR	COST OR INCOME	COST	BENEFIT	
1 INITIAL INVESTMENT	1	1	1		.00			-55000.00	-55000.00		.00
2 INITIAL INVESTMENT YR 2	1	2	2		.00			-30000.00	-28846.15		.00
3 MAINTENANCE	2	2	20		.00			-1500.00	-19700.91		.00
4 ADMINISTRATION	2	2	20		.00			-6000.00	-78803.64		.00
5 PAOT RETURNS	2	2	20		.00			44000.00	.00	555666.66	
								TOTALS =	-182350.70	555666.66	

SUMMARY REPORT
LISTING OF COMBINED ITEMS
DISCOUNTED AT 4.00%
FOR PROBLEM ALTERNATIVE 1

SEQ. NO.	COMBINATION NO.	COST	BENEFIT
1		-55000.00	.00
2		-28846.15	.00
3		-19700.91	.00
4		-78803.64	.00
5		.00	555666.66
	TOTALS=	-182350.70	555666.66

EVALUATION OF PROJECT OR PROGRAM

PERCENT USED

BENEFIT COST RATIO

\$ NET PRESENT WORTH

* ANNUAL EQUIVALENT
VALUE OF N P W

YEARS PLANNED

O. M. B. RATE	4.00	3.0472	373315.97	27469.24	20
STD TEST RATE	6.00	2.7737	296179.34	25022.26	20
STD TEST RATE	10.00	2.3074	189587.18	22268.84	20
OPT. RATE	4.00	3.0472	373315.97	27469.24	20

INTERNAL RATE OF RETURN IS - 32.86 PERCENT

NATIONAL FOREST - TARGHEE

UNIT - ISLAND PARK R. D.

ATTENTION - JOHN WHITSON

INVESTMENT ANALYSIS PROGRAM USFS - FAST VERSION

PROBLEM - ALTERNATIVE 2

BIG SPRINGS WATER TRAIL	O. M. B. RATE .0400	OPT. INT. RATE .0400	RANKING RATE .0400
-------------------------	------------------------	-------------------------	-----------------------

ITEM	VALUE	YEARS	TOTAL UNITS	FIRST YEAR		\$ DISCOUNTED AT 4.00	% BENEFIT			
				TYPE	BEGIN	END	PER YEAR	COST OR INCOME	COST	
1 INITIAL INVESTMENT	1	1	1				.00	-145000.00	-145000.00	.00
2 INITIAL INVESTMENT YR 2	1	2	2				.00	-30000.00	-28846.15	.00
3 MAINTENANCE	2	2	20				.00	-1500.00	-19700.91	.00
4 ADMINISTRATION	2	2	20				.00	-6000.00	-78803.64	.00
5 PAUT RETURNS	2	2	20				.00	44000.00	.00	555666.66
								TOTALS =	-272350.70	555666.66

SUMMARY REPORT
LISTING OF COMBINED ITEMS
DISCOUNTED AT 4.00%
FOR PROBLEM ALTERNATIVE 2

SEQ. NO.	COMBINATION NO.	COST	BENEFIT
1		-145000.00	.00
2		-28846.15	.00
3		-19700.91	.00
4		-78803.64	.00
5		.00	555666.66
	TOTALS =	-272350.70	555666.66

EVALUATION OF PROJECT OR PROGRAM

PERCENT USED

BENEFIT COST RATIO

\$ ANNUAL EQUIVALENT
\$ NET PRESENT WORTH VALUE OF N P W

YEARS PLANNED

DRG. RATE	4.00	(2.0403)	283315.97	20846.88	20
STD TEST RATE	6.00	1.8023	206179.34	17775.65	20
STD TEST RATE	10.00	1.4238	99587.18	11697.47	20
OPT. RATE	4.00	2.0403	283315.97	20846.88	20

INTERNAL RATE OF RETURN IS - 16.75 - PERCENT

PROJECTS RANKED BY THEIR INTERNAL RATE OF RETURN

PROBLEM TITLE	NPW AT 6.00%		COST	1ST YR	DOLLARS-NONDISCOUNTED				ACCUMUL. 1ST 5YR COST
	IRR				2ND YR	3RD YR	4TH YR	5TH YR	
ALTERNATIVE 1	373315.97	32.86	\$50000.00		37500.00	7500.00	7500.00	7500.00	115000.00
ALTERNATIVE 2	283315.97	16.75	\$45000.00		37500.00	7500.00	7500.00	7500.00	205000.00

PROJECTS RANKED BY THEIR NET PRESENT WORTHS AT 4.00 PERCENT

PROBLEM TITLE	NPW AT 4.00% IRR		CDST	1ST YR	DOLLARS-NONDISCOUNTED				5TH YR	ACCUMUL 1ST 5YR COST
	2ND YR	3RD YR			4TH YR	5TH YR				
ALTERNATIVE 1	373315.97	32.86		55000.00	37500.00	7500.00	7500.00	7500.00	7500.00	115000.00
ALTERNATIVE 2	283315.97	16.75		145000.00	37500.00	7500.00	7500.00	7500.00	7500.00	205000.00